

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier	Product form Substance technical name Substance chemical name CAS No. 7447-40-7	Mixture Muriate of Potash Potassium Chloride EC No. 231-211-8
	REACH registration number: not applicable as the substance is exempt from registration according to Regulation (EC) no. №1907/2006 (REACH).	
1.2. Relevant identified uses of the substance or mixture and uses advised against	Chemical production, fertilizer for agriculture, other applications. No restrictions on application.	
1.3. Details of the supplier of the Safety Data Sheet		
Manufacturer	Open Joint-Stock Company Uralkali (JSC Uralkali) 63 Pyatiletki Street, Berezniki, Perm Territory, Russia 618426 Tel: +7 (3424) 296059 Fax: +7 (3424) 296950 E-mail: uralkali@uralkali.com	
1.4. Emergency contact	Ms.Svetlana Aliferova Tel: +7 (34253) 62847 (06:00 – 15:00, Moscow time) E-mail: Svetlana.Aliferova@uralkali.com	

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Not classified as hazardous. GHS-US classification: Eye Irrit. 2B H320. Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling	: Warning
Signal word (GHS-US)	: H320 - Causes eye irritation
Hazard statements (GHS-US)	: P264 - Wash hands thoroughly after handling
Precautionary statements (GHS-US)	: P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing if eye irritation persists: Get medical advice/attention



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2.3. Other hazards

No Pictogram according to the established criteria No additional information

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

	Chemical name (IUPAC) Chemical formula	Potassium Chloride KCl	
Composition:	Mass fraction, %	CAS No.	GHS-US Classification.
Potassium chloride	95-98	7447-40-7	Eye Irrit. 2B, H320
Sodium chloride	1.1-3.0	7647-14-15	Skin Irrit. 2, H315

May contain up to 0.25% base lubrication (de-dust) oil and/or 0.03% neutralized primary aliphatic (anti-cake) amine.

4. FIRST AID MEASURES

4.1. Description of first aid measures

First-aid measures general: If medical advice is needed, have product container or label at hand.

First-aid measures after inhalation: Move to fresh air, keep person warm and at rest in a comfortable breathing position. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact: Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists.

First-aid measures after eye contact: Immediately rinse with water for a prolonged period (15 minutes) while holding the eyelids wide open including upper and lower lids. Obtain medical attention if pain and irritation



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First-aid measures after ingestion:	<p>develops or persists.</p> <p>Do not induce vomiting. Administer water if patient is conscious. Ingesting potash will usually cause purging of the stomach by vomiting. Seek medical attention if a large amount is swallowed. Get medical advice and attention if you feel unwell.</p>
4.2. Most important symptoms and effects, both acute and delayed	
Symptoms/injuries:	Irritation to eyes, skin and respiratory tract.
Symptoms/injuries after inhalation:	Overexposure may be irritating to the respiratory system.
Symptoms/injuries after skin contact:	May cause skin irritation.
Symptoms/injuries after eye contact:	May cause eye irritation.
Symptoms/injuries after ingestion:	If a large quantity has been ingested : Abdominal pain; Diarrhea; Nausea; Vomiting; Tingling in hands and feet; Weak pulse; Circulatory disturbances
Chronic symptoms:	Prolonged inhalation of dust may cause respiratory irritation.
4.3. Indication of any immediate medical attention and special treatment needed	<p>If necessary ask for medical care.</p> <p>No contra-indications.</p> <p>First-aid means (first-aid set): activated charcoal, saline purge.</p>

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:	Not flammable. Use extinguishing media appropriate for surrounding fire. : None known.
Unsuitable extinguishing media:	Product is incombustible. A non-fire and explosion hazard.

5.2. Special hazards



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arising from the substance or mixture

Fire hazard Under conditions of fire this material may produce: Potassium oxides; Hydrogen chloride; Chlorine gas

Explosion hazard Product is not explosive.
Reactivity: Stable at ambient temperature and under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions: Keep upwind. Under conditions of fire this material may produce: Potassium oxides; Hydrogen chloride; Chlorine gas.

Protection during firefighting: Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Other information: Do not allow run-off from firefighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Do not breathe fumes from fires or vapors from decomposition.

6.1.1. For non-emergency personnel

Protective equipment: Wear suitable protective clothing, gloves and eye/face protection including tight fitting goggles in areas of high dust concentration. Wear NIOSH approved respiratory protective equipment when workplace conditions warrant use of respirator.

Emergency procedures: Collect as any solid. Ventilate area.

6.1.2. For emergency responders

Protective equipment: Wear suitable protective clothing, gloves and eye/face protection including tight fitting goggles in areas of high dust concentration. Wear NIOSH approved respiratory protective






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Emergency procedures:	equipment when conditions warrant use of respirator. If possible, stop flow of product. Contain and collect as any solid. Ventilate area.
6.2. Environmental precautions	If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300.
6.3. Methods and material for containment and cleaning up	
For containment:	Contain and collect as any solid. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.
Methods for cleaning up:	Recover the product by vacuuming, shoveling or sweeping. Avoid generation of dust during clean-up of spills. If uncontaminated, recover and reuse as product. If on soil, remove and collect the top 5 cm of soil.
6.4. References to other sections	No additional information available.

7. HANDLING AND STORAGE	
7.1. Precautions for safe handling	
Additional hazards when processed:	When heated, material emits irritating fumes.
Precautions for safe handling:	Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Hygiene measures:	Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.
7.2. Conditions for safe storage, including any incompatibilities	

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Storage conditions:	Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture.
Special rules on packaging:	Avoid contact with aluminum or carbon steel to minimize corrosion.
7.3. Specific end use (s)	Fertilizer.

8. EPOSURE CONTROLS/PERSONAL PROTECTION	
8.1. Control parameters	Highly soluble – No ACGIH TWA, Particulate Not Otherwise Specified (PNOS) not appropriate for highly soluble material.
8.2. Exposure controls	Aspiration in places of the product reloading.
Appropriate engineering controls:	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment:	Gloves. Safety glasses. Protective clothing.
	  
Hand protection:	Impermeable protective gloves.
Eye protection:	Protective goggles.
Skin and body protection:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wear suitable protective clothing. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash clothing frequently.
Respiratory protection:	Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.
Environmental exposure controls:	Ensure adequate ventilation, especially in confined areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State:	Solid
Appearance:	Crystalline powder, fine grains or granular solid.
Color:	White with grayish shades, pink to red-brown color.
Odor:	Slightly oily.
Odor threshold:	NA
pH:	5.5-8.8 (approximately).
Relative evaporation rate (butylacetate=1)	NA
Melting point:	768-772 C (1418-1423 F)
Freezing point:	NA
Boiling point:	1406-1413 C (2563-2587 F)
Flash point:	NA
Self-ignition point:	Not flammable
Decomposition temperature:	NA
Flammability (solid, gas):	Not flammable
Vapour density:	80 Pa at 20 C
Relative vapour density at 20C:	NA
Relative density:	NA
Density:	1.98 g/cm³



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Solubility:	330-347 g/l (at 20 C)
Log Pow:	NA
Log Kow:	NA
Viscosity, kinematic:	NA
Viscosity, dynamic:	None known
Explosive properties:	None known
Oxidizing properties:	Not explosive
Explosive limits:	
9.2. Other information VOC content:	< 0.5%

10. STABILITY AND REACTIVITY

10.1. Reactivity	Stable at ambient temperature and under normal conditions of use. Reacts with acids and alkalis.
10.2. Chemical stability	Stable at standard temperature and pressure.
10.3. Possibility of hazardous reactions	Hazardous polymerization will not occur.
10.4. Conditions to avoid	The material is corrosive when wet. Protect from moisture.
10.5. Incompatible materials	Contact with acids liberates toxic gas (chlorine). Contact with hot nitric acid may produce toxic nitrosyl chloride.
10.6. Hazardous decomposition products	Contact with strong acids may produce hydrogen chlorine gas.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects	Acute toxicity (LD ₅₀ , rats, mice)
Additional information:	Potassium chloride is listed by the FDA as "Generally Recognized as Safe" (GRAS) and may be used as a food additive

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according to prescribed conditions.

	DL ₅₀ mg/kg	Route	Species
	2,430-2,600	intra-gastric	rats
	1,500	intra-gastric	mice
	660-770	intra-peritoneal	rats
	620-1,181	intra-gastric	mice
	39-142	intra-venous	rats
	117	intra-venous	mice
Serious eye damage/irritation:	Causes eye irritation pH: 7 (approximately)		
Respiratory or skin sensitization:	Not classified		
Germ cell mutagenicity:	Not classified		
Carcinogenicity:	Not classified		
Reproductive toxicity:	Not classified		
Specific target organ toxicity (single exposure):	Not classified		
Specific target organ toxicity (repeated exposure):	Not classified		
Aspiration hazard:	Not classified		

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Acute toxicity to fish

CL ₅₀	mg/l	Species	Time of exposure (hours)
2,300	mg/l	Leuciscus idus	48
373	mg/l	Phoxinus phoxinus	12-29
10,000	mg/l	Gambusia affinus	24
4,200	mg/l	Gambusia affinus	48
74.6	mg/l	Diplodus cervinus	4.5-15.0
2,010	mg/l	Lepomis macrochirus	96
5,500	mg/l	Lepomis macrochirus	24
12,500	mg/l	Cyprinus carpio	5



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	<p>Acute toxicity to Daphnia Magna EC₅₀ = 825 mg/l, 48 hours</p> <p>Toxicity to algae</p> <table border="0"> <tr> <td>EC₅₀</td> <td>2,500</td> <td>mg/l</td> <td>Scenedesmus subspicatus</td> <td>72</td> </tr> <tr> <td>CL₅₀</td> <td>1,337</td> <td>mg/l</td> <td>Nitschera linearis</td> <td>120</td> </tr> </table> <p>Toxicity to invertebrates</p> <table border="0"> <tr> <td>CL₅₀</td> <td>740</td> <td>mg/l</td> <td>Austropotamobius pallipes</td> <td>96</td> </tr> <tr> <td>CL₅₀</td> <td>1,214</td> <td>mg/l</td> <td>Orconectes limosus</td> <td>96</td> </tr> <tr> <td>EC₅₀</td> <td>940</td> <td>mg/l</td> <td>Physella heterostropka</td> <td>96</td> </tr> <tr> <td></td> <td></td> <td></td> <td>(mollusca),</td> <td></td> </tr> <tr> <td>CL₅₀</td> <td>398-531</td> <td>mg/l</td> <td>Austropotamobius pallipes</td> <td>30 days</td> </tr> <tr> <td>CL₅₀</td> <td>626-854</td> <td>mg/l</td> <td>Orconectes limoris</td> <td>30 days</td> </tr> </table>	EC ₅₀	2,500	mg/l	Scenedesmus subspicatus	72	CL ₅₀	1,337	mg/l	Nitschera linearis	120	CL ₅₀	740	mg/l	Austropotamobius pallipes	96	CL ₅₀	1,214	mg/l	Orconectes limosus	96	EC ₅₀	940	mg/l	Physella heterostropka	96				(mollusca),		CL ₅₀	398-531	mg/l	Austropotamobius pallipes	30 days	CL ₅₀	626-854	mg/l	Orconectes limoris	30 days
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12.2. Persistence and degradability	Extremely stable under abiotic conditions (t _{1/2}) > 30 days.																																								
12.3. Bioaccumulative potential	Not tested.																																								
12.4. Mobility in soil	MAC in soil (based on K ₂ O) - 360 mg/kg (under regulations of the Russian Federation).																																								
12.5. Environmental Fate:	<p>Stability in Water: Ions can persist, dissociates in water</p> <p>Stability in Soil: Binds to clay particles</p> <p>Transport and Distribution: 1.51 x 10⁻⁸ % to air; 45.2% to water; 54.7% to soil; 0.0755% to sediment</p>																																								
12.6. Toxicity:	Not toxic to aquatic organisms defined by USEPA																																								
12.7. Other adverse effects	The substance does not transform in the environment.																																								

13. DISPOSAL CONSIDERATIONS	
13.1. Waste treatment methods	
Sewage disposal recommendations:	This material may be hazardous to the aquatic environment. Keep out of sewers and waterways.
Waste disposal recommendations:	Place in an appropriate container and dispose of the contaminated material at a licensed site.
Additional information:	Dispose of waste material in accordance with all local, regional, national, and international regulations.

14. TRANSPORT INFORMATION	
In accordance with DOT / TDG / ADR / RID / ADNR / IMDG	



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	/ ICAO / IATA
14.1. UN number	No dangerous good in sense of transport regulations.
14.2. UN proper shipping name	Muriate of Potash (MOP), various grades
14.3. Transportation hazard class(es)	Not applicable. Non-hazardous cargo.
14.4. Packing group	Not applicable. Not classified as hazardous cargo.
14.5. Environmental hazards	Non-hazardous substance.
14.6. Special precautions for user	Not required.

15. REGULATORY INFORMATION	
15.1. US Federal regulations	<p>Potash: SARA Section 311/312 Hazard Classes.</p> <p>Potassium chloride (7447-40-7): Listed on the United States TSCA (Toxic Substances Control Act) inventory.</p> <p>Sodium chloride (7647-14-5): Listed on the United States TSCA (Toxic Substances Control Act) inventory.</p>
15.2. US State regulations	<p>The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.</p> <p>AL, AZ, CA, CT*, HI, IL*, IN, IA, KY, MD, MI, MN, NV, NM, NJ, NY, NC, OR, PR, SC, TN, UT, VT, VI, VA, WA, WY.</p> <p>* - The state plans in these states apply only to public sector employers. In these states private sector employers are subject to USOL – OSHA jurisdiction. All other state plans apply to both public and private sector employers.</p> <p>Sodium chloride (7647-14-5): U.S. - Texas - Effects Screening Levels - Long Term U.S. - Texas - Effects Screening Levels - Short Term</p>

16. OTHER INFORMATION

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

**NFPA fire hazard NFPA reactivity: 0 - Materials that will not burn.
0 - Normally stable, even under fire exposure conditions,**



and are not reactive with water.

Full text of H- phrases:

Eye Irrit. 2: Serious eye damage/eye irritation Category 2
Skin Irrit. 2: Skin corrosion/irritation Category 2
STOT SE 3: Specific target organ toxicity (single exposure) Category 3
H315: Causes skin irritation
H319: Causes serious eye irritation
H335: May cause respiratory irritation

Disclaimer

End-user bears all responsibility for safe application of the material in accordance with requirements of safety, health and environment regulations, as well as national and international legislation.

The information provided in this Safety Data Sheet is designed for safe handling only and not to be considered as a warranty or quality specification.

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